

Amendments to the Claims

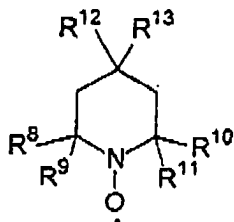
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A process for preparing alkyne carboxylic acids, comprising

oxidizing an alkyne alcohol with a hypohalite in the presence of a nitroxyl compound at a pH of greater than 7 within a reaction mixture; and

continuously adding the alkyne alcohol and the hypohalite to the reaction mixture, wherein said nitroxyl compound has the formula:



where radicals R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are each independently C<sub>1</sub>-C<sub>12</sub>-alkyl or C<sub>2</sub>-C<sub>12</sub>-alkenyl or C<sub>6</sub>-C<sub>12</sub>-aryl or aralkyl,

and radicals R<sup>12</sup> and R<sup>13</sup> are each independently hydrogen, OH,

CN, halogen, linear or branched, saturated or unsaturated C<sub>1</sub>-C<sub>20</sub>-alkyl, C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>3</sub>-C<sub>20</sub>-hetaryl or C<sub>6</sub>-C<sub>20</sub>-aralkyl, OR<sup>14</sup>, O-COR<sup>14</sup>, O-COOR<sup>14</sup>, OCONHR<sup>14</sup>, COOH, COR<sup>14</sup>, COOR<sup>14</sup>, CONHR<sup>14</sup>,

where R<sup>14</sup> is a linear or branched, saturated or unsaturated C<sub>1</sub>-C<sub>20</sub>-alkyl radical, or a C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>3</sub>-C<sub>20</sub>-hetaryl or C<sub>6</sub>-C<sub>20</sub>-aralkyl radical, -(O-CH<sub>2</sub>-CH<sub>2</sub>)<sub>n</sub>-OR<sup>15</sup>, -(O-C<sub>3</sub>H<sub>6</sub>)<sub>n</sub>-OR<sup>15</sup>, -(O-(CH<sub>2</sub>)<sub>4</sub>)<sub>n</sub>-OR<sup>15</sup>, -O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-(O-CH<sub>2</sub>-CH<sub>2</sub>)<sub>n</sub>-OR<sup>15</sup>,

where R<sup>15</sup> is hydrogen, C<sub>1</sub>-C<sub>20</sub>-alkyl, C<sub>6</sub>-C<sub>20</sub>-aralkyl, where n = 1 to 100, or CH<sub>2</sub>-CHOH-CH<sub>3</sub> or CH<sub>2</sub>-CHOH-CH<sub>2</sub>-CH<sub>3</sub>, NR<sup>16</sup>R<sup>17</sup>, NHCOR<sup>16</sup>, NHCOOR<sup>16</sup>, NHCONHR<sup>16</sup>,

where R<sup>16</sup> and R<sup>17</sup> are each independently a linear or branched, saturated or unsaturated C<sub>1</sub>-C<sub>20</sub>-alkyl radical, a C<sub>6</sub>-C<sub>12</sub>-cycloalkyl radical, or a C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>3</sub>-C<sub>20</sub>-hetaryl or C<sub>6</sub>-C<sub>20</sub>-aralkyl radical,

where radicals R<sup>12</sup> and R<sup>13</sup> may also be linked to a ring,

and where the radicals R<sup>12</sup> and R<sup>13</sup> in turn may also be substituted by COOH, OH, SO<sub>3</sub>H, CN, halogen, primary, secondary or tertiary amino or quaternary ammonium,

or the radicals  $R^{12}$  and  $R^{13}$  together may also be  $=O$ ,  $=NR^{18}$ ,  $=N-OR^{18}$ ,  $=N-N=CR^{18}R^{19}$  where  $R^{18}$  and  $R^{19}$  are each independently hydrogen,  $C_1-C_{20}$ -alkyl or  $C_6-C_{20}$ -aralkyl.

Claim 2 (Original): The process as claimed in claim 1, wherein the reaction is carried out in a multiphasic system.

Claim 3 (Original): The process as claimed in claim 2, wherein at least one phase transfer catalyst is used.

Claim 4 (Original): The process as claimed in claim 1, comprising removing the reaction mixture continuously.

Claim 5 (Original): The process as claimed in claim 1, wherein the pH of aqueous phase of the reaction mixture is between 7 and 11.

Claim 6 (Original): The process as claimed in claim 1, wherein the nitroxyl compound used is 4-hydroxy-TEMPO.

Claim 7 (Original): The process as claimed in claim 1, wherein reaction temperature is between  $-5^{\circ}\text{C}$  and  $20^{\circ}\text{C}$ .

Claim 8 (Original): The process as claimed in claim 1, wherein from 2 to 3 mol equivalents of the hypohalite are used based on the number of functional groups to be oxidized.

Claim 9 (Original): The process as claimed in claim 1, wherein the alkyne alcohol used is selected from the group consisting of 2-propyn-1-ol and 2-butyne-1,4-diol.

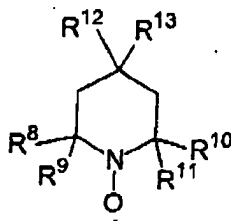
Claim 10 (Original): The process as claimed in claim 1, wherein the reaction is carried out in the presence of a substance selected from the group consisting of phosphate buffer and calcium carbonate.

Claim 11 (Currently Amended): A process for preparing alkynecarboxylic acids, comprising

initially charging less than all of an alkyne alcohol to be oxidized in a reaction mixture;

oxidizing the alkyne alcohol with a hypohalite in the presence of a nitroxyl compound at a pH of greater than 7 within the reaction mixture; and

continuously adding remainder of the alkyne alcohol and the hypohalite to the reaction mixture, wherein said nitroxyl compound has the formula:



where radicals  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are each independently  $C_1$ - $C_{12}$ -alkyl or  $C_2$ - $C_{12}$ -alkenyl or  $C_6$ - $C_{12}$ -aryl or aralkyl,

and radicals  $R^{12}$  and  $R^{13}$  are each independently hydrogen, OH, CN, halogen, linear or branched, saturated or unsaturated  $C_1$ - $C_{20}$ -alkyl,  $C_6$ - $C_{20}$ -aryl,  $C_6$ - $C_{20}$ -hetaryl or  $C_6$ - $C_{20}$ -aralkyl,  $OR^{14}$ ,  $O-COR^{14}$ ,  $O-COOR^{14}$ ,  $OCONHR^{14}$ ,  $COOH$ ,  $COR^{14}$ ,  $COOR^{14}$ ,  $CONHR^{14}$ ,

where  $R^{14}$  is a linear or branched, saturated or unsaturated  $C_1$ - $C_{20}$ -alkyl radical, or a  $C_6$ - $C_{20}$ -aryl,  $C_3$ - $C_{20}$ -hetaryl or  $C_6$ - $C_{20}$ -aralkyl radical,  $-(O-CH_2-CH_2)_n-OR^{15}$ ,  $-(O-C_3H_6)_n-OR^{15}$ ,  $-(O-(CH_2)_4)_n-OR^{15}$ ,  $-O-CH_2-CHOH-CH_2-(O-CH_2-CH_2-)_n-OR^{15}$ ,

where  $R^{15}$  is hydrogen,  $C_1$ - $C_{20}$ -alkyl,  $C_6$ - $C_{20}$ -aralkyl, where  $n = 1$  to 100, or  $CH_2-CHOH-CH_3$  or  $CH_2-CHOH-CH_2-CH_3$ ,  $NR^{16}R^{17}$ ,  $NHCOR^{16}$ ,  $NHCOOR^{16}$ ,  $NHCONHR^{16}$ ,

where  $R^{16}$  and  $R^{17}$  are each independently a linear or branched, saturated or unsaturated  $C_1$ - $C_{20}$ -alkyl radical, a  $C_6$ - $C_{12}$ -cycloalkyl radical, or a  $C_6$ - $C_{20}$ -aryl,  $C_3$ - $C_{20}$ -hetaryl or  $C_6$ - $C_{20}$ -aralkyl radical.

where radicals  $R^{12}$  and  $R^{13}$  may also be linked to a ring,

and where the radicals  $R^{12}$  and  $R^{13}$  in turn may also be substituted by COOH, OH,  $SO_3H$ , CN, halogen, primary, secondary or tertiary amino or quaternary ammonium,

or the radicals  $R^{12}$  and  $R^{13}$  together may also be  $=O$ ,  $=NR^{18}$ ,  $=N-OR^{18}$ ,  $=N-N=CR^{18}R^{19}$  where  $R^{18}$  and  $R^{19}$  are each independently hydrogen,  $C_1$ - $C_{20}$ -alkyl or  $C_6$ - $C_{20}$ -aralkyl.

Claim 12 (Original): The process as claimed in claim 11, wherein the reaction is carried out in a multiphasic system.

Claim 13 (Original): The process as claimed in claim 12, wherein at least one phase transfer catalyst is used.

Claim 14 (Original): The process as claimed in claim 11, comprising removing the reaction mixture continuously.

Claim 15 (Original): The process as claimed in claim 11, wherein the pH of aqueous phase of the reaction mixture is between 7 and 11.

Claim 16 (Original): The process as claimed in claim 11, wherein the nitroxyl compound used is 4-hydroxy-TEMPO.

Claim 17 (Original): The process as claimed in claim 11, wherein reaction temperature is between -5°C and 20°C.

Claim 18 (Original): The process as claimed in claim 11, wherein from 2 to 3 mol equivalents of the hypohalite are used based on the number of functional groups to be oxidized.

Claim 19 (Original): The process as claimed in claim 11, wherein the alkyne alcohol used is selected from the group consisting of 2-propyn-1-ol and 2-butyne-1,4-diol.

Claim 20 (Original): The process as claimed in claim 11, wherein the reaction is carried out in the presence of a substance selected from the group consisting of phosphate buffer and calcium carbonate.